

**REMARKS**

Claims 1-10 are pending in this application. By this Amendment, claims 1 and 3 are amended. Claims 3-6 and 9-10 are withdrawn from further consideration by the Examiner as being drawn to a non-elected invention. Support for the amendments can be found in the specification at, for example, page 8, paragraph [0046]; page 15, paragraph [0076]; and page 17, paragraph [0088]. No new matter is added. Reconsideration of the application based upon the above amendments and the following remarks is respectfully requested.

**I. Rejections Under 35 U.S.C. § 102(b) and (e) or 35 U.S.C. §103**

The Office Action rejects claims 1-2 and 7-8 under 35 U.S.C. §102(b) and (e) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Yasumoto et al. ("Yasumoto", US 6,991,870). However, Yasumoto does not disclose, teach or likewise suggest, every limitation of independent claim 1. Thus, the rejection is respectfully traversed.

Independent claim 1 specifies, *inter alia*, that each electron collection layer is situated between a substrate provided with a gas flow path to supply a first reaction gas; and a gas diffusion layer. Independent claims 1 further specifies that "at least one of the first electron collection layer and the second electron collection layer constructed in porous form by stacking conductive material particles, the conductive material particles having at least one of a particle shape, an elliptical shape, and a cylindrical shape."

Figure 4 of Yasumoto teaches a fuel cell comprising separator plates having gas flow paths; a porous material composed of carbon fiber adjacent to the separator plate; a catalyst layer, comprising carbon particles and platinum, disposed on the carbon fiber layer; and a polymer electrolyte membrane (PEM) disposed between the catalyst layers (Yasumoto, col. 6, lines 34-40 and 50-58, Fig. 4). Figures 5-6 of Yasumoto teach a fuel cell similar to the fuel cell disclosed in Figure 4. However, in Figures 5-6 the pores of the carbon fiber layer

adjacent to the separator plate contain a mixture of conductive particles and a polymer material (Yasumoto, col. 7, lines 29-32, Fig. 5-6). The Office Action alleges that the conductive material may be carbon or metal. However, Yasumoto only teaches that the conductive particles of the gas diffusion electrodes are made of carbon (Yasumoto, col. 9, lines 55-60).

In addition, Figures 7, 9, and 10 teach a fuel cell comprising separator plates having gas flow paths; layers of porous material composed of carbon fiber adjacent to the separator plate; conductive polymer layers, comprising a mixture of the conductive particles with a polymer material, disposed on top of the carbon fiber layers; catalyst layers, comprising carbon particles and platinum, disposed on the conductive polymer layers; and a polymer electrolyte membrane (PEM) disposed between the two catalyst layers (Yasumoto, col. 8, lines 18-24; col. 9, lines 18-23; Fig. 7, 9, 10). As discussed above, the conductive particles of the gas diffusion electrodes are made of carbon (Yasumoto, col. 9, lines 55-60).

At most, Yasumoto teaches a porous material composed of carbon fiber adjacent to the separator plate that may further contain, inside the pores of the carbon fiber layer, a mixture of conductive particles and a polymer material wherein the conductive particles are made of carbon. However, nowhere does Yasumoto disclose, teach or likewise suggest an electron collection layer constructed in porous form by stacking conductive material particles, the conductive material particles having at least one of a particle shape, an elliptical shape, and a cylindrical shape, as claimed.

Claims 2 and 7-8 depend from independent claim 1. Because Yasumoto fails to disclose, teach or suggest, the features recited in independent claim 1, dependent claims 2 and 7-8 are patentable for at least the reasons that claim 1 is patentable, as well as for the additional features they recite.

Accordingly, the cited reference fails to disclose, teach or likewise suggest, a fuel cell having an electron collection layer, as claimed. The reference thus would not have anticipated or rendered obvious the claimed invention. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

## **II. Rejoinder**

Applicants also respectfully request rejoinder of non-elected method claims 3-6 and 9-10. Where product and process claims are presented in the same application, Applicants may be called upon under 35 U.S.C. §121 to elect claims to either the product or process. MPEP §821.04. However, in the case of an elected product claim, rejoinder will be permitted when a product claim is found allowable and the withdrawn process claim depends from or otherwise includes all the limitations of an allowed product claim. *Id.* Because process claims 3-6 and 9-10 include all the limitations of product claim 1, the process claims 3-6 and 9-10 must be rejoined with the product claims when the product claims are found allowable. Because the product claims are believed to be allowable for at least the reasons presented above, Applicants respectfully request withdrawal of the Restriction Requirement and rejoinder of claims 3-6 and 9-10.

## **III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of this application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

  
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